

CLAIMS

1. Method for dividing an analyte present in a solution in a first receptacle (10, 44) in several second receptacles (12, 42), the analyte being fixed on magnetic particles, comprising sedimentation of the magnetic particles by first magnetic means, and
5 formation of a plurality of residues in the second receptacles (12, 42).

2. Method according to claim 1, comprising
10 sedimentation of magnetic particles in the form of at least a first residue (22, 30) in the first receptacle (10) and transport of the first residue(s) to the second receptacles (12), each second receptacle (12) being connected to the first receptacle (10) through at
15 least one fluid channel (14).

3. Method according to claim 2, in which the first residue(s) (22, 30) transported to the second receptacles (12) is (are) by relative displacement of a
20 magnetic field created by the second magnetic means (20, 24) with respect to the fluid channels (14).

4. Method according to claim 3, in which each fluid channel (14) is parallel to the others, and in
25 which the relative displacement of the magnetic field generated by the second magnetic means (20, 24) is parallel to the direction of the channels (14).

5. Method according to one of claims 3 or 4, in which the first and second magnetic means are coincident in a single entity.

5 6. Method according to one of claims 2 to 5, in which the first residue (22) is a single and linear-shaped residue, dividing the first receptacle (10) into two parts.

10 7. Method according to claim 6, in which each fluid channel (14) is located on the same side of the residue (22) in the direction of displacement of the field generated by the second magnetic means (20).

15 8. Method according to one of claims 6 or 7, in which the second magnetic means comprise a long magnet (20) which moves relatively to the fluid channels (14).

20 9. Method according to claim 8, in which the magnet (20) is displaced relative to the fluid channels (14), the length of the magnet (20) being such that the projection onto the magnet of the segment defined by the intersection of the plane orthogonal to the displacement containing the magnet (20) and the bottom
25 of the first receptacle (10) on which the residue (22) lies, along this plane orthogonal to the displacement containing the magnet (20), is included within the segment delimited by the magnet (20), at all times during the relative displacement of the magnet.

10. Method according to one of claims 2 to 5, in which the second magnetic means (24) are such that they form single residue (30) in front of each fluid channel (14).

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11. Method according to claim 10, in which all the residues (30) are subjected to a simultaneous displacement along the direction of each fluid channel (14).

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12. Method according to claim 11, in which the second magnetic means (24) comprise a magnetic structure with single or multiple projections (28), free to move relative to the fluid channels (14).

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13. Method according to one of claims 2 to 12, in which the first residue(s) (22, 30) are moved as far as the second receptacles (12).

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14. Method according to one of claims 2 to 13, in which each fluid channel (14) comprises a ferromagnetic strip, and in which the first residue(s) are moved and guided along this strip.

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15. Method according to one of claims 2 to 14, in which each second receptacle (12) is connected to the first receptacle (10) through a single fluid channel (14) composed of a capillary.

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16. Method according to claim 1, in which sedimentation of the magnetic particles forms a

plurality of residues directly in the second receptacles (42).

17. Method according to one of the previous
5 claims, in which the division is equitable, in other words the analyte quantity is the same in each second receptacle (12, 42).

18. Method according to one of the previous
10 claims, comprising the previous steps for fixing the analyte on the particles and for adding the solution containing the analytes fixed on the particles in the first receptacle.

19. Device (1, 40) for dividing an analyte present
15 in a liquid and fixed on magnetic particles, comprising a first receptacle (10, 44) intended for containing a liquid, and a plurality of second receptacles (12, 42) each connected to the first receptacle (10, 44) through
20 a fluid channel (14, 48).

20. Device according to claim 19, in which each fluid channel (14) is a capillary.

21. Device according to one of claims 19 to 20, in
25 which each fluid channel (14) is connected to the first receptacle through a neck (16, 48).

22. Device according to one of claims 19 to 21, in
30 which the first receptacle (10, 44) is connected to means for adding a solution (4).

23. Device according to one of claims 19 to 22, in which each second receptacle (12) is fitted with fluid inlet-outlet channels (18).

5 24. Device according to one of claims 19 to 23, comprising a support (2, 6) including the first receptacle (10), the second receptacles (12) and the fluid channels (14).

10 25. Device according to claim 24, in which each fluid channel (14) is identical and in which the pitch separating two adjacent fluid channels is constant.

15 26. Device according to one of claims 19 to 25, comprising a magnetic track for each fluid channel (14), to guide the displacement of a residue (22, 30) of magnetic particles.

20 27. Set of devices for dividing an analyte, comprising a plurality of devices (1, 40) according to one of claims 19 to 26.

25 28. Set of devices according to claim 27 such that the first receptacles (10, 44) in each device have a similar size and shape.

30 29. System for dividing an analyte fixed on magnetic particles present in a liquid, comprising a device (1, 40) according to one of claims 19 to 26, or a set of devices according to one of claims 27 or 28, and magnetic means (20, 24, 50).

30. System according to claim 29, in which the magnetic means comprise magnetic means (20, 24) free to move relative to the channels (14), thus enabling displacement of the magnetic particles on which the
5 analyte is fixed, from the first receptacle (10) to the second receptacles (12) through the fluid channels (14).

31. System according to claim 30, in which the
10 mobile magnetic means (20, 24) are suitable to move in translation with respect to the channel(s) (14).

32. System according to one of claims 30 to 31, the mobile magnetic means of which comprise a long
15 magnet (20).

33. System according to claim 32, in which the length of the magnet (20) is such that any projection of the width of the first receptacle (10) onto the
20 magnet along a plane orthogonal to the displacement and containing the magnet, is included in the magnet, the width of the first receptacle being defined by the segment derived from intersection of the plane perpendicular to the displacement and the bottom of the
25 first receptacle (10).

34. System according to one of claims 32 or 33, in which each fluid channel (14) is located on the same side of the first receptacle, along the magnet
30 displacement direction (AA).

35. System according to one of claims 29 to 31, in which the magnetic means are structures with single or multiple projections (24).

- 5 36. System according to claim 29, in which the magnetic means include a set of magnetic elements capable of creating a magnetic field free to move in translation with respect to the channels (14).